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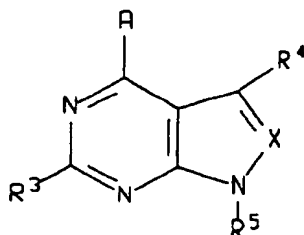
(30) Priority: **02.03.1995 US 397527**

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New York, N.Y. 10017 (US)

(54) **Pyrazolopyrimidines and pyrrolopyrimidines for treatment of neuronal and other disorders**

(57) Pyrazolopyrimidines and pyrrolopyrimidines of the general formula



I

wherein A, X, R³, R⁴ and R⁵ are defined in the application, and pharmaceutically acceptable salts of such compounds, are useful in the treatment or prevention of certain neuronal and other disorders.

EP 0 729 758 A3

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Applicants: **Arlindo Castelhana et al.**
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Exhibit 7



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EUROPEAN SEARCH REPORT

Application Number
EP 96 30 0931

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|--|--|--|---|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int.Cl.6) |
| D,X | WO 94 13677 A (PFIZER ;CHEN YUHPYNG LIANG (US)) 23 June 1994 * claims 1-12 * | 1-16 | A61K31/505 |
| D,X | WO 94 13676 A (PFIZER ;CHEN YUHPYNG L (US)) 23 June 1994 * claims 1-12 * | 1-16 | |
| P,X | WO 95 10506 A (DU PONT MERCK PHARMA) 20 April 1995 * page 1-4 * * table 10 * * claims 1-10 * | 1-16 | |
| P,Y | WO 95 33750 A (PFIZER ;CHEN YUHPYNG L (US)) 14 December 1995 * claims 1-22 * | 1-16 | |
| Y | US 4 213 977 A (CREANGE JOHN E ET AL) 22 July 1980 * column 2, line 8 - line 21 * | 1-15 | |
| D,X | DE 31 45 287 A (TROPONWERKE GMBH & CO KG) 19 May 1983 * page 10, line 19-21; claims 1-10 * | 1-15 | TECHNICAL FIELDS SEARCHED (Int.Cl.6) A61K |
| D,X | EP 0 496 617 A (GENSIA PHARMA) 29 July 1992 * page 3, line 31 - line 38; claims 1-27 * | 1-15 | |
| X | WO 94 13643 A (PFIZER ;FARACI WILLIAM STEPHEN (US); WELCH WILLARD MCKOWAN JR (US)) 23 June 1994 * claims 1-10 * | 1-16 | |
| P,X | EP 0 691 128 A (PFIZER) 10 January 1996 * claims 1-6 * compounds (C) VIII, (D) I | 1-15 | |
| The present search report has been drawn up for all claims | | | |
| Place of search MUNICH | | Date of completion of the search 19 August 1997 | Examiner Seegert, K |
| CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background (I) : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application I : document cited for other reasons a : member of the same patent family, corresponding document | | | |

EPO FORM 1503 (04/92) (P/M/C/D)



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

See sheet -B-

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



European Patent
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EUROPEAN SEARCH REPORT

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EP 96 30 0931

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|--|---|--|--|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int.Cl.6) |
| D,Y | US 5 063 245 A (ABREU MARY E ET AL) 5 November 1991 * column 5, line 1 - line 20 * | 1-16 | |
| D,Y | EP 0 005 205 A (TROPONWERKE GMBH & CO KG) 14 November 1979 * page 7, line 26 - page 8, line 5 * * claims 1-10 * | 1-15 | |
| Y | PHARM. REV., vol. 43, 1991, pages 425-473, XP000614410 OWENS M.J. ET AL : "Physiology and Pharmacology of Corticotropin-releasing factor" * page 447 * "B. Metabolic Responses to Corticotropin-releasing Factor Administration" * page 457 - page 462 * sections IX and X | 1-16 | |
| Y | BRAIN RES. (NETHERLANDS), vol. 656, no. 2, 1994, pages 405-408, XP002038091 STRIJBOS P.J.L.M. ET AL: "Corticotropin-releasing factor antagonist inhibits neuronal damage induced by focal cerebral ischaemia or activation of NMDA receptors in the rat brain" * abstract * | 1-15 | |
| The present search report has been drawn up for all claims | | | |
| Place of search MUNICH | | Date of completion of the search 19 August 1997 | Examiner Seegert, K |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : oral-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application I : document cited for other reasons & : member of the same patent family, corresponding document</p> | | | |

EP 0 729 758 A3 (P) (C) (U)

European Patent
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SHEET B

Application Number

ANNEX

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. The subject-matter of the present application relates to the use of compounds of formula (I) for the manufacture of a medicament for the prevention/treatment of numerous disorders as claimed in Claim 1.
2. The common concept linking the different therapeutic applications as claimed resides in the fact that the compounds exhibit corticotropin-releasing factor (CRF) antagonist activity (see e.g. page 1, lines 18 - 26 of the description).
3. However, this common concept is already known from the prior art (see e.g. WO-A-9413677 or WO-A-9413676, also cited on pages 2 - 3 of the description).
Consequently, the therapeutic applications as claimed in the present application are no longer linked by a common concept. Thus the requirements of Article 82 EPC are not met.
4. The following different inventions have been identified:

Use of a compound of formula (I) or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for preventing or inhibiting a disorder selected from
 1. head trauma, spinal cord trauma (partly Claims 1 - 15)
 2. ischemic neuronal damage, excitotoxic damage (partly Claims 1 - 15)
 3. epilepsy (partly Claims 1 - 15)
 4. stroke (partly Claims 1 - 15)
 5. stress induced immune dysfunctions (partly Claims 1 - 15, Claim 16)
 6. phobias (partly Claims 1 - 15)



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LACK OF UNITY OF INVENTION
SHEET B

Application Number

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

-2-

7. muscular spasms (partly Claims 1 - 15)
 8. Parkinson's disease (partly Claims 1 - 15)
 9. Huntington's disease (partly Claims 1 - 15)
 10. urinary incontinence (partly Claims 1 - 15)
 11. senile dementia of the Alzheimer's type (partly Claims 1 - 15)
 12. multiinfarct dementia (partly Claims 1 - 15)
 13. amyotrophic lateral sclerosis (partly Claims 1 - 15)
 14. chemical dependencies and addictions (partly Claims 1 - 15)
 15. hypoglycemia (partly Claims 1 - 15)
5. For the time being the search has been restricted to the first subject-matter.



European Patent
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EUROPEAN SEARCH REPORT

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|--|--|--|--|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int.Cl.6) |
| Y | BRAIN RES. (NETHERLANDS), vol. 545, no. 1-2, 1991, pages 339-342, XP002038092 LYONS M.K. ET AL: "Corticotropin releasing factor antagonist reduces ischemic hippocampal neuronal injury" * abstract * | 1-15 | |
| Y | AM. J. PHYSIOL. (UNITED STATES) , vol. 255, no. 3 PT 1, 1988, pages 287-292, XP002038093 WIDMAIER E.P. ET AL: "Regulation of corticotropin-releasing factor secretion in vitro by glucose" * abstract * * page 291, last paragraph - page 292 * | 1-15 | |
| Y | ANN. PHARMACOTHER. (UNITED STATES), vol. 28, no. 6, 1994, pages 779-791, XP002038094 HAINES S.T. ET AL: "Treatment of infantile spasms" * page 781, right-hand column * | 1-15 | |
| Y | CLINICAL NEUROPHARMACOLOGY, vol. 9, no. 2, 1986, pages 202-205, XP002038095 KLAWANS H.L. ET AL: "Myoclonus and Parkinsonism" * abstract * | 1-15 | |
| The present search report has been drawn up for all claims | | | |
| Place of search MUNICH | | Date of completion of the search 19 August 1997 | Examiner Seegert, K |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background U : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p> | | | |

EP 0 729 758 A3 (1997.08.19)